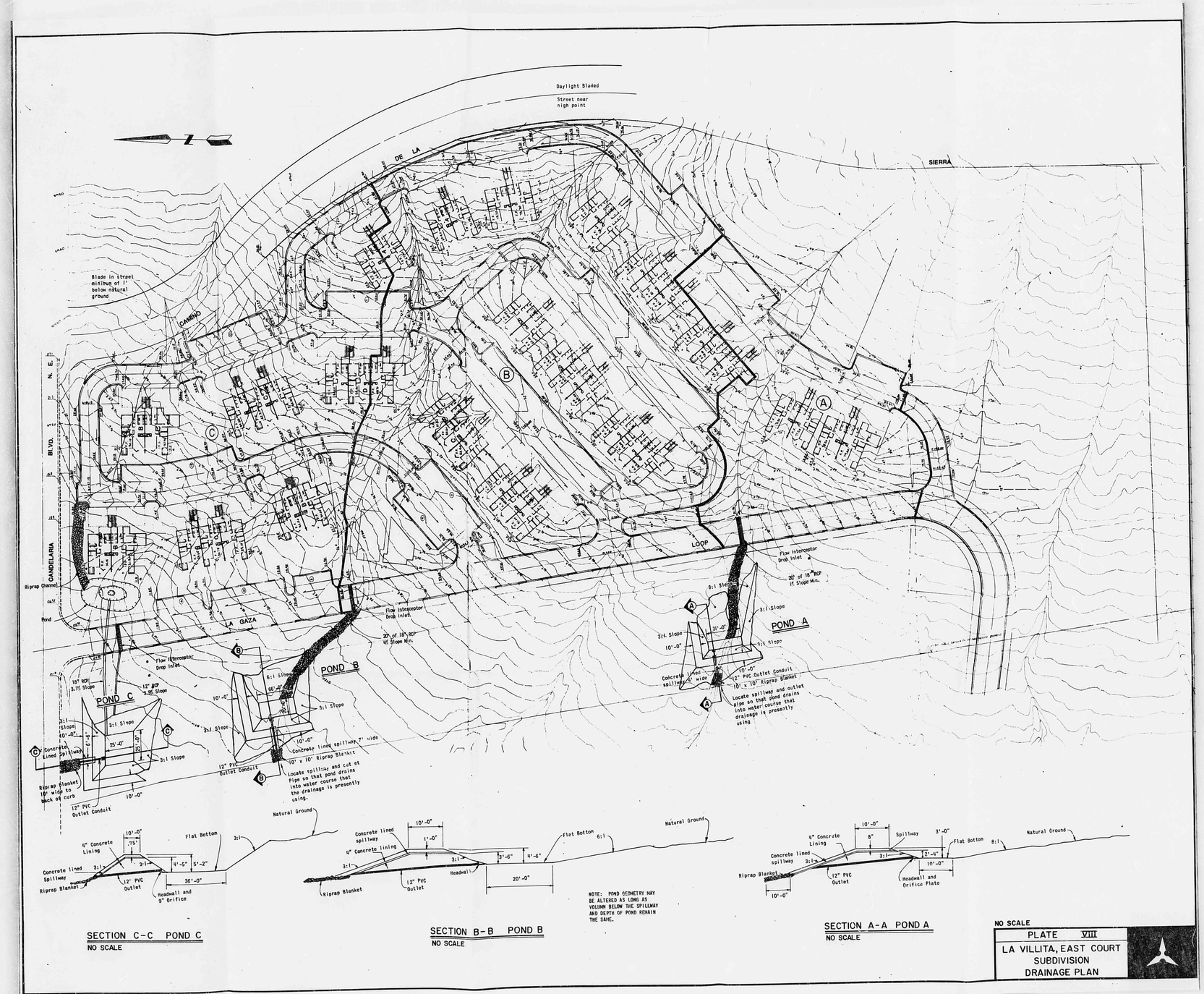


SECTION C-C POND C
NO SCALE

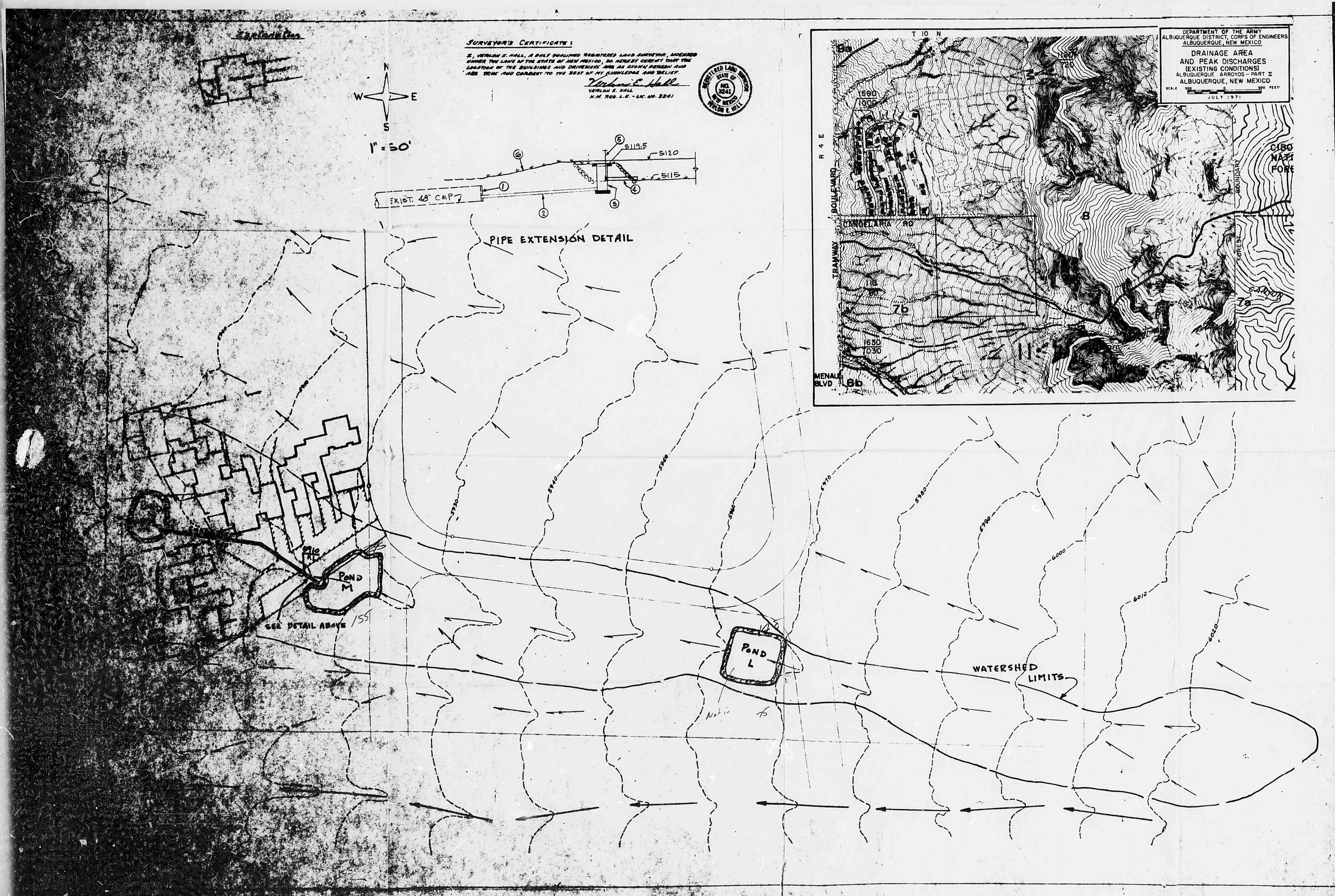
NOTE: POND GEOMETRY MAY BE ALTERED AS LONG AS VOLUME BELOW THE SPILLWAY AND DEPTH OF POND REMAIN THE SAME.

SECTION B-B POND B
NO SCALE

SECTION A-A POND A
NO SCALE

NO SCALE

PLATE VIII
LA VILLITA, EAST COURT SUBDIVISION
DRAINAGE PLAN



ADDITIONAL DRAINAGE STUDY - LA VILLITA ADDITION

WATERSHED AREA ABOVE POND "L" = 1.9 ACRES

L = 730
S = .082 √S = .287

tc = .0078 K$^{.77}$ = 3.3 MIN.

$i = \frac{163}{3.3 + 20} = 7.0$

Q = 1.9 x .4 x 7.0 = 5.3 cfs

POND AREA REQUIRED = $\frac{3.0 \times 1.9 \times 43560}{12}$ = 20,700 cf

POND FURNISHED:
80' x 75' TOP DIMENSIONS x 5' DEEP

1:1 SLOPES WITH HEAVY RIP-RAP LINING. TOP ELEVATION 5970.
AREA = 26,000 cf.

WATERSHED ABOVE POND "M" = 2.1 ACRES

L = 475'
S = .084 √S = .290
tc = 2.3 MIN.
i = 7.3

Q = 2.1 x .4 x 7.3 = 6.1 cfs

POND AREA REQUIRED = $\frac{3.0 \times 2.1 \times 43560}{12}$ = 22,900 cf

POND FURNISHED:
5375 sf AVERAGE AREA x 4.5' DEPTH FROM BOTTOM ELEV. OF 5915 TO RISER OVERFLOW ELEV. OF 59195.
1:1 SIDE SLOPE WITH HEAVY RIP-RAP LINING.
TOP ELEV. 5920
AREA = 24,200 cf

WATERSHED AREA ABOVE POND "N" = 1.1 ACRES

L = 200'
S = .040 √S = .2
tc = 1.6 MIN.
i = 7.5

Q = 1.1 x .4 x 7.5 = 3.3 cfs

POND AREA REQUIRED: $\frac{3.0 \times 1.1 \times 4356}{12}$ = 12000 cf

POND AREA FURNISHED : 2900 sf AVERAGE AREA X 5' DEEP. 1:1 SLOPES WITH HEAVY RIP-RAP LINING.
TOP ELEV. 5907.
AREA = 14500 cf

CONSTRUCTION NOTES:

1. BRICK SHUT END OF EXIST. 48" CMP AROUND NEW 8" CMP DRAIN.
2. EXTEND 8" CMP ABOUT 22' AND TERMINATE IN 36" CMP RISER.
3. INSTALL 36" x 7' SECTION OF CMP AS RISER. SET IN 8" THICK x 4' DIAMETER CONCRETE BASE. POUR 6" DEEP x 1' WIDE CONCRETE COLLAR AT TOP. TERMINATE RISER AT ELEVATION 5919.5.
4. INSTALL 8" CMP POND DRAIN FROM BEYOND RIP-RAP THRU 36" RISER AT ELEVATION 5115.
5. INSTALL 8" SLIDE GATE ON END OF 8" CMP. SECURE OPERATING GUIDES TO SIDE OF 36" RISER.
6. BACKFILL TO EXISTING GRADE.

APPROVED:

A.M.A.F.C.A. EXECUTIVE ENGINEER DATE

TRAFFIC ENGINEER DATE

CITY ENGINEER DATE

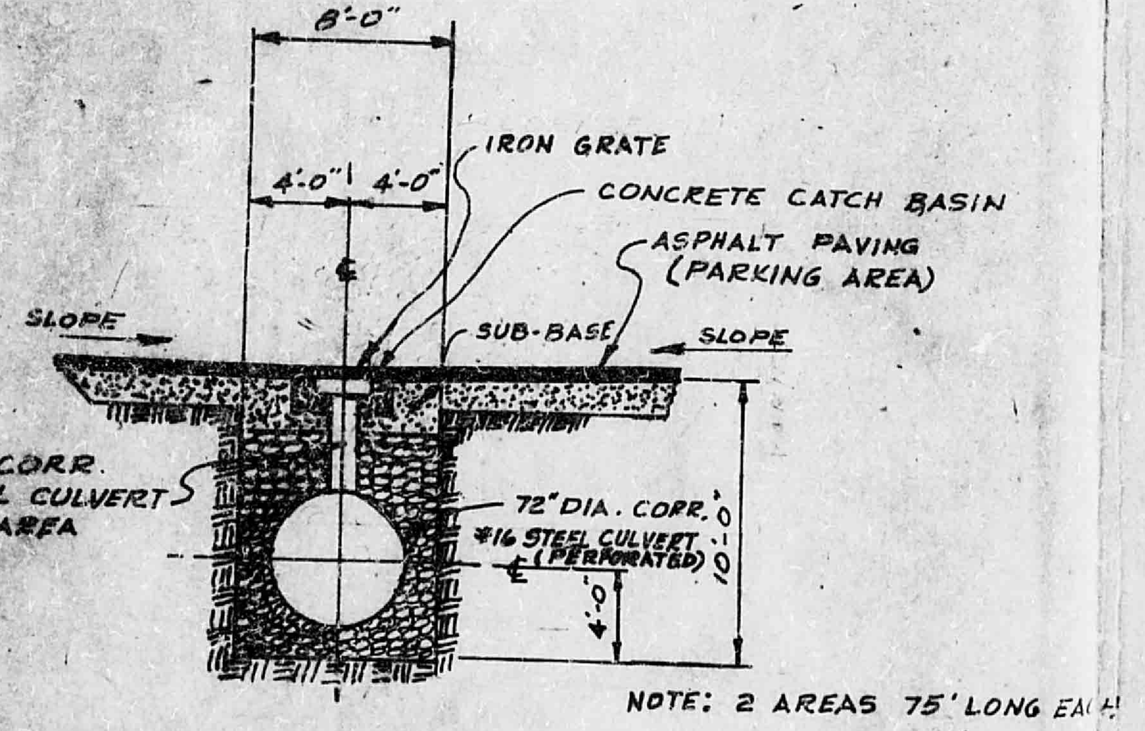
REGISTERED PROFESSIONAL ENGINEER
STATE OF
2961
NEW MEXICO
MAX FLATOW

FLATOW MOORE BRYAN & FAIRBURN
ARCHITECTS ENGINEERS PLANNERS
ALBUQUERQUE PHOENIX

ADDITIONAL DRAINAGE STUDY
LA VILLITA ADDITION
ALBUQUERQUE, NEW MEXICO

FM B&F
DATE 3/26/73
BY RTS
1 of 1

2-71-25



TYPICAL DRY WELL
CROSS SECTION
NO SCALE

NOTE:

INCOMING DRAINAGE WILL REMAIN IN ITS PRESENT NATURAL FLOW. THE MAIN WATER CARRYING DRAINS ARE AS INDICATED ON THE DRAINAGE PLAT, BEING DESIGNATED AS DRAINAGE FLOW CHANNELS #1, #2, & #3.

LEGEND:

A, B, C, D, ETC.	DRAINAGE AREA AS INDICATED
——→	DRAINAGE FLOW
●	CONCRETE CATCH BASIN (INLET)
– – – – –	CONTOUR (ELEVATION) LINES

TRACT #6

FOUR PERCOLATION RATE TEST HOLES WERE DRILLED IN THIS AREA AND TEST PERFORMED. THE TEST HOLE WITH THE MINIUM PERCOLATION RATE WAS USED FOR DRY WELL COMPUTATIONS: TEST HOLE DATA WAS 5.5 INCH (.46 FT) DIA., 15" HEAD OF WATER (AFTER HOLE WAS SATURATED FOR 24 HOURS), PERCOLATION RATE WAS ONE INCH DROP IN WATER LEVEL IN 13.3 MINS.

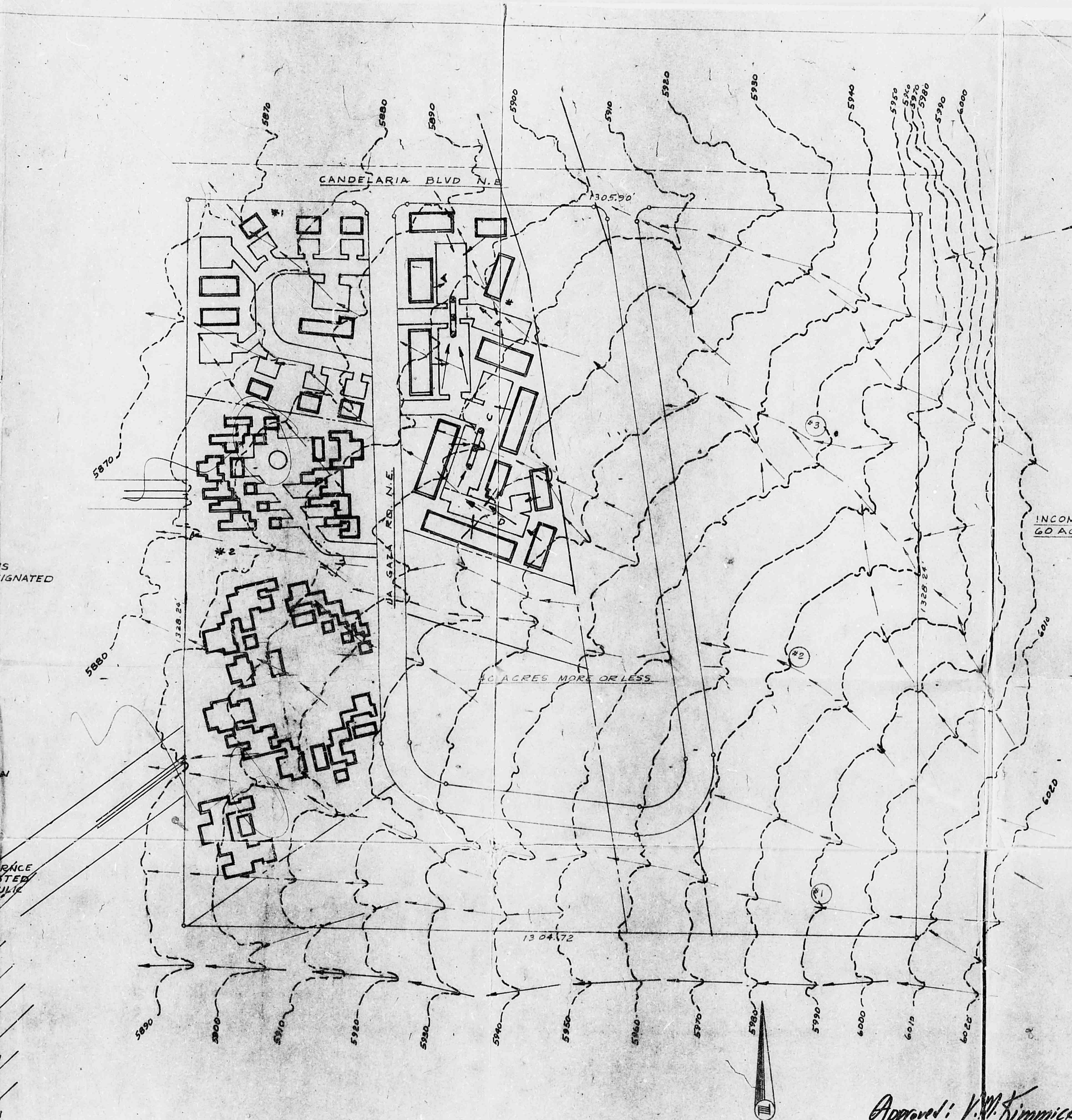
THE FLOW FOR THE DRY WELL (10 FT. DIA) WAS ADJUSTED FOR THE INCREASED WETTED PERIMETER (CIRCUMFERENCE AREA PER LINEAR FT OF DEPTH) AND THE FLOW ADJUSTED FOR INCREASE HEAD USING FOLLOWING BASIC HYDRAULIC FORMULAE:

$V = C\sqrt{2gH}$ OF THE RATIO $Q_2 = \sqrt{\frac{H_2}{H_1}}$

$Q = VA$

V = VELOCITY
C = FLOW COEFICENT
g = ACCELERATION OF GRAVITY 32.0 FT/SEC/SEC
H = HEAD
Q = QUANTITY FT³/MINUTE

FT. DEPTH	WATER LEVEL DROP PER MINUTE	Q OF PERCOLATION
1	1.47"	6.66 FT³/MIN
2	3.58"	23.23 FT³/MIN
3	6.10"	39.92 FT³/MIN
4	9.00"	58.91 FT³/MIN
5	12.30"	80.50 FT³/MIN
6	15.94"	104.33 FT³/MIN
7	19.83"	129.78 FT³/MIN
8	23.99"	157.00 FT³/MIN
9	28.41"	185.94 FT³/MIN
10	32.95"	215.53 FT³/MIN



INCOMING DRAINAGE
60 ACRES MORE OR LESS

DATA:

A: AREA IN ACRES
C: .60 IMPERVIOUS COEFFICIENT
I: 4.2 INTENSITY OF RAINFALL, INCH PER HOUR
S: SLOPE, FEET PER 1,000 FT.
Q: QUANTITY, CU. FT. PER SECOND

FORMULA:

$$ACI\sqrt[5]{\frac{S}{A}} = Q$$

60 ACRES:

$$60 \times .60 \times 4.2\sqrt[5]{\frac{295}{60}} = 207.14 \text{ CU FT. PER SEC.}$$

40 ACRES:

$$40 \times .60 \times 4.2\sqrt[5]{\frac{94}{40}} = 119.95 \text{ CU. FT. PER SEC.}$$

ENGINEER'S CERTIFICATE:

DRAINAGE ANALYSIS SHOWN ON THIS PLAT IS TRUE AND CORRECT TO THE BEST OF KNOWLEDGE AND BELIEF.

N.M.P.E. & L.S. NO. 3707

100 YEAR FLOOD, (4.2 INCHES PER HOUR OR .07 INCHES PER MINUTE) WHICH IS IN ACCORDANCE WITH U.S. CORPS OF ENGINEERS FLOOD PLAIN DATA

AREA	ROOF AREA	PARKING AREA	TOTAL AREA	RAIN INFLOW
A	12,195 FT²	16,080 FT²	28,275 FT²	164.94 FT³/MIN.
B	9,080 FT²	4,440 FT²	13,520 FT²	78.87 FT³/MIN.
C	14,640 FT²	14,710 FT²	29,350 FT²	171.21 FT³/MIN.
D	13,025 FT²	7,225 FT²	20,250 FT²	118.13 FT³/MIN.
			91,395 FT² OR 2.1 ACRES	533.15 FT³/MIN.

ACI = FT³/SEC (NATURAL DRAINAGE SMALL AREA)
2.1 X .60 X 4.2 = 5.29 FT³/SEC. X 60 SEC. = 317.52 FT³/MIN
533.15 − 317.52 = 215.61 FT³/MIN. TO BE PERCOLATED INTO SOIL
215.61 X 20 MIN (100 YR FLOOD DURATION) = 4312 FT³
.00064 FT³/MIN/FT³ X 75 X 10 X 2 X 2 PERCOLATED AREA = 1.92 FT³/MIN X 60 = 115 FT³/HR.
$\frac{4312}{115}$ = 37.5 HRS FOR WATER TO BE PERCOLATED INTO SOIL
6 FT DIA² × $\frac{3.1416}{4}$ X 150' LENGTH = 4241 FT³/STORAGE CAPACITY OF TWO 6' DIA STEEL EACH 75' LONG

Approved: V. M. Kimmick
1-7-72

ENGINEERS CERTIFICATE
DRAINAGE DATA AS SHOWN ON THIS PLAT IS TRUE AND CORRECT TO THE BEST OF KNOWLEDGE AND BELIEF

N.M.P.E. & LS NO. 3707
GEORGE F. VEIDER

RAIN RUNOFF FOR LA VILLITA
ADDITION - ALBUQUERQUE, NEW MEXICO
FOR: LOFTIN AND ASSOCIATES
PREPARED BY: HALL SURVEYING CO.
801 SAN MATEO NE.
ALBUQUERQUE, NEW MEXICO
8 DECEMBER 1971 VLG